Rehabilitation
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Making Education Easy
Issue 65 – 2023

In this issue:

Abbreviation used in this issue

3-D = 3 dimensional
PRISMA = Preferred Reporting Items for Systematic Reviews and Meta-Analyses
PTSD = post-traumatic stress disorder
SCI = spinal cord injury
TBI = traumatic brain injury

Welcome to issue 65 of Rehabilitation Research Review.

A scoping review provides information on goal-setting tools in adult rehabilitation and discovers that most goal-setting tools targeted activity and participation and supported a client-centred or shared decision-making approach. A systematic review highlights a lack of attention to homelessness in traumatic brain injury clinical guidelines and emphasises the need to consider equity in guideline development and use more generally. We wrap up this issue with a systematic review and meta-analysis looking at the effects of behaviour change interventions on physical activity in people with spinal cord injury.

I hope that you find the information in this issue useful in your practice and I welcome your comments and feedback.

Kind regards,
Professor Nicola Kayes
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The effectiveness of play as an intervention using International Classification of Functioning outcome measures for children with disabilities – A systematic review and meta-synthesis

Authors: Carrington L et al.

Summary: This systematic review and meta-analysis assessed the effectiveness of play as therapy for children with disabilities, examined how play is used in therapy, and classified outcome measures used in play-based interventions based on 22 studies assessed using PRISMA guidelines. Overall, 61% of outcome measures assessed body function and structure. The meta-analysis identified heterogeneity in play-based intervention outcomes that precluded effectiveness estimation; there was a trend towards a small positive effect, but certainty of the effect was poor.

Comment: Play has been associated with beneficial social, emotional, physical, and cognitive outcomes for children. This review focused on the use of play within therapeutic settings. For children (and adults for that matter!), play is occupation. With that in mind, the use of play in therapeutic settings for children is consistent with calls for the use of activity and occupation as therapy in adult rehabilitation (e.g., Collis JM et al., Disabil Rehabil. 2022). The authors noted that play has historically been used in therapeutic settings: a) as a motivator; b) as a mechanism for addressing non-play related therapeutic goals; and c) as an intervention goal. The heterogenous nature of research made meaningful synthesis tricky. As a consequence, the findings of this review are not definitive. Nonetheless, if you work in paediatric rehabilitation, it is worth reading this paper to get a sense of the current state of evidence and how play is being used in rehabilitation settings. Interestingly, despite the potential for broad-ranging benefits, there was a dominant focus on impairment-based outcomes in included papers. The authors make some clear recommendations for researchers going forward, including: a) inclusion of measures in the activity and participation domains of the International Classification of Functioning, Disability, and Health; b) use of mixed methods for a more nuanced understanding of impact and outcome; and c) more detailed reporting of intervention characteristics, drawing on tools such as the Template for Intervention Description and Replication checklist.

Reference: Disabil Rehabil. 2023;Sep 26 [Epub ahead of print]
Abstract

Challenges in applying evidence-based practice in stroke rehabilitation: A qualitative description of health professional experience in low, middle, and high-income countries

Authors: Watkins KE et al.

Summary: This study examined the experiences of 12 experienced rehabilitation professionals in the application of evidence-based practice (EBP) for stroke rehabilitation in five high-income, two upper-middle income, three lower-middle income, and two low-income countries. Overall, nine factors were identified that influenced evidence-based stroke rehabilitation: complexity of rehabilitation research; relevance of research in a local context; lack of time, training, or resources for developing EBP; changing health professional behaviours; cultural, patient, and family influences; language barriers; and access to research evidence. Economic constraints contributed to many but not all challenges related to economic classification.

Comment: There is an enduring call for EBP in rehabilitation. However, the authors of this paper rightly point out that the evidence base is largely produced in high-income countries and there are systemic barriers which limit access and implementation of that evidence in other contexts. Alongside that, there are embedded (often flawed) assumptions about the transferability of that evidence base to other settings. This research was part of a larger study examining factors influencing the upscaling of stroke rehabilitation to improve quality and reach of stroke services globally. The secondary aim tackled in this paper was to explore barriers and facilitators to EBP in countries of differing financial wealth. While findings highlighted that lower-middle and low-income countries face more challenges, many of the factors identified were not solely about wealth. The authors note that “successful implementation of EBP also requires access to the right research, which is of high quality, is relevant to the local context, and is transferrable into clinical practice” (p. 6). This is as true in New Zealand as it is anywhere. The application of EBP requires a commitment beyond the production of research, to include an explicit focus on the development of multimethod approaches which address the knowledge translation gap, and which ensure appropriate attention to the unique characteristics of local context. I would add that we need to remain reflexive about the application of knowledge produced elsewhere so that we can be mindful of whose perspectives and what knowledge is privileged, while also being open to where it can add value and complement our local evidence base.

Reference: Disabil Rehabil. 2023;Sep 4 [Epub ahead of print]

Abstract

Characteristics of goal-setting tools in adult rehabilitation: A scoping review

Authors: Okita Y et al.

Summary: This scoping review examined literature on goal-setting tools for adult rehabilitation, based on 165 studies reporting 55 different goal-setting tools, including goal selection and documentation (n = 31), goal setting and planning (n = 15), and measuring quality of goal-setting (n = 9); 32 tools were designed for rehabilitation of physical disabilities, while some were classified in multiple sub-categories: framework tools (n = 22), interview tools (n = 12), outcome measurement tools for goal achievement (n = 9) or goal quality (n = 6) and documentation tools (n = 25). Most goal-setting instruments targeted activity and participation (n = 51) and supported a client-centred or shared decision-making approach (n = 46).

Comment: Despite longstanding calls for client involvement in goal planning, evidence highlighting a mismatch between health professional and client goals suggest this remains elusive in practice. Goal setting tools have the potential to enhance meaningful involvement of clients. However, as this review highlights – there are many tools available (55 different tools) which makes it difficult to know which tools would be most useful, in which settings and for whom. This review starts to unpack this but focuses primarily on providing an overview of tool characteristics, rather than making any definitive recommendations around tool selection. If you are looking for a goal setting tool to incorporate into your practice, then this paper provides a good overview of what tools are currently available and so may be a good starting point for your search. When selecting which of these tools has the right fit for your practice, I would suggest you need to be clear about: a) your intended purpose (i.e., what do you hope the tool will enable?); b) the populations you are working with (i.e., any unique characteristics that might have implications for goal planning processes?); and c) the context in which you are working (i.e., time constraints, funder requirements). Finally, I would suggest monitoring the use of the tool to ensure it is working as intended.

Reference: Clin Rehabil. 2023:Aug 30 [Epub ahead of print]

Abstract

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Occupational adaptation for adults living with advanced cancer: A phenomenological longitudinal study

Authors: Brose JM et al.

Summary: This longitudinal phenomenological study used a semi-structured interview series (33 interviews over 19 months) to assess the lived experience of occupational engagement in eight working-aged adults (40-64 years old) living with advanced cancer. Three themes were identified: 'ongoing adaptation through doing', the importance of 'volition in adaptation', and 'everyday life is contingent on my environment'. The process of adaptation occurs during occupational engagement, motivated by volition, and affected by environment. Volition and environment played a more important role in occupational adaption than occupational competency.

Comment: I enjoyed this paper. Primarily because it made me think/reflect/ponder. Three things I pondered included: 1) To what extent do existing services explicitly attend to occupational adaptation for people living with advanced cancer? Or for others in end-of-life care, or living with conditions where progressive decline is a central feature? I suspect our focus on occupation is given less and less space in our care and rehabilitation processes as people approach end-of-life and/or that routine access to occupational therapy is limited. Yet, the findings of this paper highlight the critical importance of occupation to sense of self and normalcy. 2) When we do explicitly attend to occupation in these contexts, do we do that in an ongoing way? In the context of functional decline, the findings of this study highlight that occupational adaptation is an ongoing process that requires continual support and adjustment, the adoption of compensatory strategies, modifications to the environment, and so on. 3) How much does our privileging of physical function, impairment and competency obscure a focus on other aspects of care that can address the things that matter to people? Participants in this study shared stories of being in significant pain while engaging in valued occupations, but that the act of engaging in that occupation mattered more in that moment. A primary focus on symptom reduction or control in these cases may have limited engagement in occupation which may ultimately have been more damaging. I am reminded of a paper published a few years ago which reflected on the difference between 'managing a condition well' (focus on disease control) versus 'managing well with a condition' (focus on what matters to people in the context of their condition) – see Morgan HM et al., Health Expect. 2017. The findings of this paper call for an approach consistent with the latter.

Reference: Aust Occup Ther J. 2023;Oct 8 [Epub ahead of print]

Abstract

Equity considerations in clinical practice guidelines for traumatic brain injury and homelessness: A systematic review

Authors: Chan V et al.

Summary: This systematic review examined equity and quality of care in patients experiencing homelessness and TBI and their consideration in 58 clinical practice guidelines (CPGs) for TBI and two CPGs for homelessness. Only three guidelines for TBI integrated evidence on homelessness, while the two guidelines for homelessness acknowledged TBI as prevalent noting that TBI and homelessness defined a disadvantaged population that should be prioritised in guideline development.

Comment: This paper includes two key contributions from my perspective. First, it highlights a lack of attention to homelessness in TBI clinical guidelines despite high prevalence of TBI in homeless communities and even though their unique circumstances may limit the transferability of general guidelines. Second, this paper is a good example of why we need to consider equity in guideline development and use more generally. The authors drew on some useful tools in their analysis including frameworks designed to assess equity in clinical guidelines such as that published by Dans et al., (see Dans AM et al., J Clin Epidemiol. 2007) and the equity extension of the GRADE working group (see Welch VA et al., J Clin Epidemiol. 2017). In New Zealand, other tools such as Critical Tiriti Analysis (see Came H et al., Ethnicities 2020) may be useful to support an equity-oriented analysis of guidelines. More routinely assessing guidelines with an equity-oriented lens may increase the likelihood that the practices we are implementing are going to work for all, rather than just a narrow subset of the communities we serve.

Reference: EClinicalMedicine 2023:63:102152

Abstract

What should all health professionals know about movement behaviour change? An international Delphi-based consensus statement

Authors: Alsop T et al.

Summary: This study used a three-phase Delphi process in participants from 11 countries with expertise in physical activity and sedentary behaviour (academic 55%, clinical 30%, academic/clinical 13%) to identify key competencies for health professionals to support effective movement behaviour change. The experts agreed that health professionals should recognise, own and practice interprofessional collaboration; support positive cultures; communicate using person-centred approaches, considering determinants, barriers and facilitators; explain health impacts; and recognise how their behaviour influences change support for movement behaviour.

Comment: The interest in movement behaviour in this research comes from the recognition that physical activity and sedentary behaviour are linked to health and well-being and the role that health professionals play in influencing these health behaviours. However, movement behaviour is particularly relevant for rehabilitation professionals given it is also critical for functioning, recovery and adaptation following injury and illness and in the management of long-term conditions. This research identified 11 core competencies for health professionals – that is ≥80% of participants agreed that all health professionals, regardless of discipline, should have those competencies. Figure 2 in this paper provides an excellent infographic summary of these 11 competencies. Because the focus is on competencies relevant to all health professionals, many of them are limited to things health professionals should recognise, understand, consider, explain, promote; rather than things they might actually do and incorporate into practice. The few that explicate what one might do in practice are relatively broad such as 'person centred approaches to facilitate shared decision-making' and 'effective communication strategies to build therapeutic rapport'. These of course are competencies I support, but they are not unique to one's role in effective movement behaviour support. It is therefore worth considering what additional competencies might be core to rehabilitation professionals. When you dig into the supplementary materials, the full list of candidate competencies derived in the first phase of this research offer some useful insights. Many of them were strongly endorsed by most participants (>70%) even though they did not meet the consensus threshold of 80%. Further, there were many seen as the domain of specific health professionals. For example, competencies considered particularly relevant to physiotherapists included competencies such as: 'Work with individuals using movement behaviour change techniques and strategies' and 'Demonstrate an understanding of and be able to apply contemporary behaviour change theory concepts and principles'. Regardless, the 11 competencies identified in this research are a good starting point to help individual clinicians assess where they are at, as well as to inform health professional education.

Reference:* *Br J Sports Med. 2023;57(22):1419-1427

Abstract

Fostering equitable change in health services: Using critical reflexivity to challenge dominant discourses in low back pain care in Australia

Authors: Mescouto K et al.

Summary: This study used critical discourse analysis methods to examine how clinicians construct low back pain (LBP) in relation to justice and equity-focused practices in health services and broader sociocultural/political aspects of care, and considered whether those constructions changed when clinicians engaged in critically reflexive dialogues. Clinicians and services often constructed LBP care at an individual level and this individualistic discourse constrained justice-oriented practice consideration. Discursive constructions of LBP care expanded through dialogue to incorporate health service systems and workplace practices that fostered more equitable clinical and service practices, including assisting in navigation of health care systems, considering socioeconomic circumstances, encouraging discussion of possible systemic changes, and fostering a more inclusive culture.

Comment: This is an excellent paper. Please read it. While I know that we can sometimes lean away from papers when we see phrases like 'critical discourse analysis', this is a very accessible read. It touches on a topic (health equity), that is relevant to all rehabilitation professionals (and health researchers!), despite the specific focus on LBP care. The premise of this work is that the successful implementation of health equity interventions requires us to challenge taken-for-granted assumptions, practices, structures, and systems. The authors argue for the role of critical reflexivity and critically reflexive dialogue in scaffolding this process. They draw on an existing definition of critical reflexivity 'as the ability to examine and challenge power relations, and other social and moral issues embedded in everyday life' (p. 2). They engaged in critically reflexive dialogues with staff in two LBP settings, meeting with staff at 2-month intervals. Their analysis highlights a shift over time from a dominant individualistic discourse to discourses which recognised the socio-cultural-political context of both clients (the broader systemic factors at play) and clinicians (their workplace culture, values, and identity). This led to a set of recommendations being developed in both settings which aimed to facilitate the consideration of broader social, economic, and political dimensions of LBP care. For example, to 'reduce power differences between patients and clinicians', 'acknowledge and validate emotions', 'discuss team values and workplace culture'. I do hope you lean into this paper. Importantly, I hope that it prompts you to embed critically reflexive dialogue on health equity into your routine practice.

Reference: J Health Serv Res Policy 2023:Aug 8 [Epub ahead of print]

Abstract

A framework for equitable virtual rehabilitation in the metaverse era: Challenges and opportunities

Authors: Veras M et al.

Summary: This review proposes a five-domain framework to consider when designing and implementing metaverse-based rehabilitation services, in order to reduce inequalities and provide best patient care, based on elements extracted and synthesised in consultation with an interdisciplinary team. The metaverse is considered to be a dynamic 3D virtual space that enables work, shopping, study, physical activity, and interact with others using virtual reality, augmented reality or mixed reality technology assisted by artificial intelligence. The framework considers equity issues in progress towards implementing the metaverse in rehabilitation services based on the domains of equity, health services integration, interoperability, global governance, and humanisation.

Comment: If I am honest, I selected this paper as I wanted to know what this 'metaverse' thing was. It was not a term I was familiar with and so I wondered - what exactly is the 'metaverse era'? In this paper, the focus is on the clinical metaverse and the use of dynamic, interoperable (or immersive) 3D space to deliver clinical services. The authors note that metaverse needs four types of technologies including: 1) augmentation (such as augmented reality); 2) Simulation (such as virtual reality); 3) Intimate (such as smart watch monitoring heart rate); and 4) External (such as Google Street view). Technology development is advancing at speed and when one considers the combined potential of these four types of technology for rehabilitation, it is clear they have the potential to be transformative. At the same time, there is risk in perpetuating or exacerbating longstanding inequities in rehabilitation access and outcome if we don't design for that from the outset. The proposed Metaverse Equitable Rehabilitation THerapy (MERTH) framework was developed to support the development and evaluation of rehabilitation interventions, education and research using the metaverse. The authors note it is yet to be tested and evaluated, but it is an excellent starting point. This paper includes rich discussion in each of the five domains traversing topics such as digital literacy, haptic technology, metaverse cafes, avatars, intercultural connection, design justice, and more. It is tricky to do it justice within this brief commentary. I will say, however, that while I was initially drawn to this paper because of its title, I was not disappointed. I can envisage this framework being a useful tool to both inform the development of emerging rehabilitation technologies, and to enable critical review of technologies by rehabilitation providers and educators.

Reference: Front Rehabil Sci. 2023:4:1241020

Abstract

Stepped collaborative care for pain and posttraumatic stress disorder after major trauma: A randomized controlled feasibility trial

Authors: Giummarra MJ et al.

Summary: This Australian randomised controlled feasibility trial assessed the provision of stepped collaborative care case management of PTSD and pain symptoms in 32 major trauma survivors. Patients receiving the intervention received a median of 7 hours of case manager contact and valued supportive and non-judgmental listening and access to effective strategies, resources, and treatments. Participants experienced few disadvantages from participation, with positive symptom and recovery outcome impacts consistent with a reduction in PTSD and pain symptoms at 1, 3 and 6 months.

Comment: This work was prompted by evidence which highlights that PTSD and pain co-occur following major trauma, but are not well addressed through existing care and rehabilitation services, despite them potentially influencing each other. The authors make a compelling argument for the development and implementation of interventions which are designed to address both rather than addressing each in isolation, as has been the status quo to date. To that end they combine aspects of the Trauma Survivor Outcome Support (TSOS) intervention with aspects of the Transitional Pain Service (TPS). For context and to support interpretation of what the researchers were trying to achieve in this project: TSOS is led by a case manager and draws on a stepped care model where there is an increase in treatment complexity in response to patient needs and preferences with a focus on psychologically-based therapeutic support; TPS identifies patients with high psychosocial and clinical risk factors for persistent pain, disability and opioid use (originally developed for the prevention of post-surgical pain) and includes psychologically-informed multidisciplinary pain management supports. In the current study, they used what they called 'enhanced TSOS' which was TSOS with elements from TPS integrated. The outcome was a risk-stratified stepped collaborative care intervention designed to address pain and PTSD following major trauma. This paper reports on a feasibility study which was not powered to determine effect, but the findings suggest this integrated package of care is both acceptable and feasible.

Reference: Disabil Rehabil. 2023;Sep 14 [Epub ahead of print]
Abstract

Effects of behaviour change interventions on physical activity in people with spinal cord injury: A systematic review and meta-analysis

Authors: Watson PK et al.

Summary: This systematic review and meta-analysis assessed behaviour-change interventions to improve physical activity in patients with a spinal cord injury following PRISMA guidelines based on 23 studies. The overall effect estimate of physical activity change after intervention was medium (d 0.50; 95% CI 0.31-0.70). Mean difference in physical activity volume was an increase of 22 minutes per week (95% CI 5.96-38.90). A greater effect was observed with interventions that provided practical support (d 0.81; 95% CI 0.46-1.16), were individualised (d 0.62; 95% CI 0.34-0.90) and used monitoring (d 0.59; 95% CI 0.34-0.83) compared to group-based programmes that did not utilise those techniques.

Comment: It is worth noting that this review looked at a lot of different intervention factors including intervention duration, intensity, provider (physical activity specialist versus researcher), format (individualised versus group-based), mode (technology versus in-person plus technology), setting (home-based versus clinic plus home-based), underpinned by behaviour change theory (or not), and behaviour change techniques (BCTs; quantity and the effect of specific BCTs). The authors suggest interpreting some of their findings with caution due to the small number of studies included in some of their analyses. Notwithstanding that, it is interesting that most of the factors explored did not appear to improve the effect size beyond the positive effect of a behaviourally targeted intervention more generally (their primary analysis). As noted above, only three variables appeared to improve the effect – interventions that were individualised, and which included practical support and self-monitoring. This is consistent with previous research exploring physical activity interventions more generally. For example, prior work has found that interventions which include one or more self-regulatory BCT (such as self-monitoring) are more effective at supporting behaviour change. The finding regarding intervention intensity was interesting in that as intensity increased, the effect size decreased. So, doing more is not necessarily better. Almost all the interventions drew on behaviour change theory and it appeared (from the primary analysis) that behaviourally targeted and theoretically informed interventions appear to be effective. However, the findings regarding the effects of specific BCTs over others highlighted that integrating BCTs that are tailored to person and context are likely to optimise effectiveness.

Reference: Psychol Sport Exerc. 2023:67:102408
Abstract

Independent commentary by Professor Nicola Kayes

Professor Nicola Kayes is Director of the Centre for Person Centred Research at Auckland University of Technology. Nicola has a background in health psychology and as such her research predominantly explores the intersection between health psychology and rehabilitation. She is interested in exploring the role of the rehabilitation practitioner and their way of working as an influencing factor in rehabilitation and whether shifting practice and the way we work with people can optimise rehabilitation outcomes. Nicola actively contributes to undergraduate and postgraduate teaching in rehabilitation at the School of Clinical Sciences at Auckland University of Technology.